

## **DEFENSE NUCLEAR FACILITIES SAFETY BOARD**

**MEMO TO:** Timothy Dwyer, Technical Director  
**FROM:** Matthew Duncan and Rory Rauch, Pantex Site Representatives  
**SUBJECT:** Pantex Plant Report for Week Ending June 24, 2011

**W78 Operations:** PXSO approved the justification for continued operations (JCO) that supports the remainder of the disassembly of the W78 unit with the damaged detonator cable assembly. The JCO describes the compensatory measures needed to protect the damaged area against the mechanical impact and electrostatic discharge (ESD) hazards postulated for the proposed process for completing the disassembly. Tooling personnel have designed a protective cover that will adequately mitigate all postulated ESD or mechanical impact insults. The JCO also describes several administrative controls that have been credited to protect against the postulated hazards prior to installation of the cover. Most notably, the JCO identifies a requirement to reduce the charge on the surface of any dielectric materials introduced by the process by submerging the material in distilled water before bringing it within a specified proximity of the unit.

Last week, NNSA completed a nuclear explosive safety (NES) change evaluation (NCE) of the proposed process. The NCE group issued a memo this week stating that the proposed operation meets the NES standards. The memo describes several minor wording changes to the procedure to improve operations. The NCE group suggested that the B&W NES personnel validate the changes in a training environment prior to performing the recovery operation. The recovery operation is scheduled for early next week.

**W78 Tooling Upgrades:** One of the post-start findings from the W78 operational safety review (OSR, completed in January 2010) identified a NES deficiency associated with certain operations around bare conventional high explosives. B&W has been working on new tooling designs and process changes to resolve the concern. The scope of these changes has grown over time (B&W and an outside vendor have fabricated 20 new tools to resolve the NES deficiency) and B&W program management has determined that the changes are significant enough to require a readiness review before W78 disassembly operations are authorized to be performed with the new tooling. B&W plans to perform all necessary startup activities next fiscal year, with the goal of having these W78 tooling and process changes available to support operations by October 2012.

**Documented Safety Analysis (DSA) Upgrade Initiative (DSAUGI):** In the last several weeks, B&W authorization basis personnel have issued revisions to the project plan and guidance document supporting the DSAUGI project (see 3/25/11 report). One of the more significant conceptual changes captured in these revisions to these DSAUGI documents involves B&W's treatment of extremely low probability, high-consequence accident scenarios. In the past, typically citing the low probability of the initiating event, B&W did not always apply technical safety requirement-level controls to all high-consequence accident scenarios for which the design agency determined a weapon response was credible. As part of the DSAUGI project, B&W has stated its intent to apply engineered controls to these types of accident scenarios, when possible. Those high-consequence accident scenarios that do not receive an engineered control as an accident preventer, or those cases where the nuclear explosive cell has been credited as an accident mitigator, shall be elevated to the executive summary of the applicable DSA. In the executive summary, B&W plans to describe the residual risk associated with these scenarios and if possible tie the scenario to a planned improvement that would either design an engineered feature to prevent the accident or redesign the process to eliminate the hazard. The first DSA to receive these upgrades will be the Nuclear Material Safety Analysis Report, which is scheduled to be submitted to PXSO by September 29, 2011.